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ABSTRACT

A study investigated the development of metacognitive strategy instruction on standardized reading comprehension measures with fourth grade students. Forty-one subjects were assigned to one of three criterion reading groups, based on pretest scores using the Stanford Diagnostic Reading Test (SDRT) and the Wide Range Achievement Test: (1) "GOOD/GOOD" (students with above average reading comprehension and above average word recognition), (2) "GOOD/POOR" (students with below average reading comprehension but above average word recognition), and (3) "POOR/POOR" (students with below average reading comprehension and word recognition). The subjects were involved in three phases of instruction using the direct teaching method: (1) students were first taught individual strategies of prediction, clarification, question generating, and summarizing; (2) the researcher then used the direct teaching model with the reciprocal teaching methodology; and (3) finally, reciprocal teaching methods were applied within the content area of social studies. Results indicated that for the "GOOD/POOR" group, metacognitive strategy training with reciprocal teaching significantly influenced reading comprehension, suggesting that for this type of reader direct instruction of needed strategies can improve reading comprehension. (Twenty-three references are appended.) (MM)

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Metacognitive Strategies for Development of Reading Comprehension for Younger Children

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meeting of the American Association of Colleges
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During the reading act a reader progresses through complex mental processes which involve interactions between the reader and the text for meaning to occur. Skilled readers consistently use more comprehension strategies in their efforts to obtain meaning (Garner, 1980; Sullivan, 1978) and are more flexible in interpreting material they read (Sullivan, 1978). Reading for the skilled reader can be viewed as a continual process of forming and evaluating hypotheses which are supported or discarded by the reader in his/her efforts to understand the text (Bruce & Ruben, 1984).

Reading for meaning requires thinking which would involve development of cognitive strategies. One such cognitive strategy is metacognition. Some of the comprehension skills which engage metacognition (Brown, 1985; Derry & Murphy, 1986) include : (1) identifying types of learning situations and the learning tactics appropriate for that situation, (2) identifying important aspects of a message, (3) clarifying the purposes for reading, (4) monitoring one's own comprehension through self questioning strategies and (5) taking corrective action if failure in comprehension occurs.

The current state of reading comprehension instruction suggests a major inconsistency between preferential teaching methodology and actual teaching practices. Although classroom teachers express an awareness of modern reading theory, a gap exists in their desire and /or facility in implementing these

theories within the mainstream of teaching practices (Durkin, 1978-79 ; Smith, 1978-79). Duffy, Roehler and Mason (1984) reported studies done under the California Beginning Teacher Evaluation Study and compared them with research done by Durkin in the late 1970's. Their conclusions were that "these studies suggests that classroom reading instruction is often mechanical, activity dominated and basal text driven. There is little evidence that comprehension is taught at all, much less taught well" (p.4).

An effective reading comprehension methodology being investigated and attempted in classroom instruction utilizes the direct instructional model for teaching reading comprehension (Baumann, 1986a, 1986b, 1984; Langer 1984; McNeil, 1984; Raphael & Wonnacott,1985). Baumann (1986) stated that a direct instructional model is implemented "when teachers are actively, intensively and systematically involved with instruction in reading comprehension" (p. 640).

Several basic components are involved in the direct instruction model (Baumann, 1986). Initially a student would be taught what the reading skill is and why it is important to learn. The "how" of the instruction would involve the direct instruction component where the teacher would "tell, show, model or demonstrate how the reading skill operates" (p.641). Within this step the responsibility of learning is shifted from the teacher to the student. Finally, the student is taught when the skill should be used.

Strategies or processes which the reader uses in understanding text make up the foundation of metacognition research. Metacognition according to Derry and Murphy (1986, p.9) refers to "the learner's awareness and knowledge of their own learning processes, as well as their abilities and tendencies to control those processes during learning."

Although efficient comprehenders use comprehension monitoring techniques on a regular basis, they might not be aware that they are using these techniques unless they reach an area where the meaning of the material breaks down. Poor comprehenders, on the other hand, rarely use or even know effective monitoring techniques (Markman, 1977, Markman & Gorin, 1981).

Research has revealed that older students employ comprehension strategies more regularly and are more aware of what they are doing than younger students (Baker & Brown, 1984a,1984b; Markman and Gorin, 1981). It would appear plausible that one reason for this would be developmental, while another would be curriculum based. Earlier reading programs stress the decoding aspects of reading skills with much less emphasis on meaning and higher level thinking activities. The overall emphasis appears to be placed on development of the mechanical skills in reading (Myers & Paris, 1978).

Although younger children may not spontaneously approach inconsistencies in their comprehension through comprehension strategy techniques, research does substantiate their cognitive and developmental ability to do so (Myers & Paris, 1978). This

study (Dermody, 1987) investigated the development of metacognitive strategy instruction on standardized reading comprehension measures with fourth grade students. Forty-one fourth grade students were identified for the study using the Stanford Diagnostic Reading Test and The Wide Range Achievement Test. Students were assigned to one of three criterion reading groups, based on pretest scores. The three criterion reading groups were: (1) GOOD/GOOD, students with above average reading comprehension and above average word recognition, (2) GOOD/POOR, students with below average reading comprehension but above average word recognition, and (3) POOR/POOR, students with below average reading comprehension and word recognition. Random assignment to either experimental or control group was done after students met the criterion for established groups.

Students were involved in three phases of instruction. Within phase 1 students were taught the individual strategies of prediction, question generating, clarification and summarizing. The direct teaching method was used within all phases. Initially students were instructed in making predictions based on the title of the story. Following development of this strategy, students were then shown how predictions could be made about each paragraph by reading the first sentence of the paragraph.

Clarification and question generating were taught. Clarification involved students explaining unfamiliar phrases (i.e. "Chinese ping-pong players are often world champions." The instructor would then question the students on what the words "world champions"

meant in that sentence). Question generating was taught along with the strategy clarification by modeling for the students different types of question which closely followed Raphael and Gavelek's (1984) labeling design. Students were taught four types of questions: Right There, Think and Search, On My Own and Clarification. Practice in identifying the types of questions being asked was reinforced by teaching students through demonstrations how to answer the different types of questions (i.e. Right There Questions -- the answer is written in one sentence in the passage; Think and Search -- the answer requires the reader to combine ideas which are located in more than one sentence to find the correct answer; On My Own -- the student must answer the question about the topic but must use information he/she brings to the reading situation, referred to as the reader's schema; Clarification -- a word or phrase which the reader must explain based on how it was used in the passage). Students were then instructed to make up questions of each type once it was established they could identify the type of question when asked.

Baumann's (1986) development of main idea instruction through teaching explicit main idea (topic sentences) and implicit main idea (main idea & details in paragraphs) was used in assisting students in making summaries. Locating explicit topic sentences in paragraphs by teaching where topic sentences are generally located was modeled. In paragraphs where there was no explicitly stated topic sentence, generating supporting details to come

up with a main idea of the paragraph was modeled. Students practiced this strategy with single paragraphs and later were shown how to combine several summaries to create the summary of the short selection (five paragraphs).

In phase II the researcher used the direct teaching model with the reciprocal teaching methodology (Palincsar, 1984; Palincsar & Brown 1983, 1984). Initially in all sessions the researcher began the lesson with modeling of application of predictions, question generating, clarification and summarizing using a sample paragraph. The individual students within the reading groups then alternated in being the leader using a reciprocal teaching format in practicing these strategies.

Phase III involved application of the reciprocal teaching methods within the content area of social studies.

Results of this study indicated the individual criterion group GOOD/POOR of the experimental group was statistically significant on the Wilcoxon matched pairs test (Wilcoxon matched pairs test $T(7) = 3$, $p < .05$). This means that this experimental group performed significantly better on The Stanford Diagnostic Reading Test after having received the experimental treatment.

An ~~one-way~~ ANOVA was computed to compare gain scores on The Stanford Diagnostic Reading Test for the three groups in the experimental condition. The ANOVA indicated a significant statistical difference in gain scores between the three criterion groups [F (2,18) = 5.74, $p < .01$]. The group GOOD/POOR had

the largest increase in gain scores (on the SDRT) when compared to the criterion groups GOOD/GOOD and POOR/POOR.

Conclusions of this research found that for the criterion group GOOD/POOR (students who exhibited good word recognition skills but below average comprehension abilities) metacognitive strategy training with reciprocal teaching significantly influenced reading comprehension as measured on the SDRT. The educational significance of this finding suggest that for this type of reader the need for direct instruction of needed strategies improves one's performance in a skill, in this case reading comprehension.

Fourth grade students can develop metacognitive awareness and improve reading comprehension through training in metacognitive strategies and reciprocal teaching. Teachers should examine strategies which would be beneficial to their students and use a direct teaching methodology to exemplify and reinforce the knowledge of these strategies.

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